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10/521,650

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Rinaldo Husler

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EXAMINER

MCCLENDON, SANZA L

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

02/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/521,650 | Applicant(s) HUSLER ET AL. | |
| | Examiner Sanza L. McClendon | Art Unit 1796 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 5 and 9-15 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5 and 9-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 11, 2008 has been entered.

Response to Amendment

2. In response to the Amendment received on December 11, 2008, the examiner has carefully considered the amendments. The examiner acknowledges the cancellation of claims 2 and 4, as well as, the addition of new claim 15.

Response to Arguments

3. Applicant's arguments with respect to claims 5 and 9-15 have been considered but are moot in view of the new ground(s) of rejection. Applicant appears to be relying on the amendment to the claims, as well as, arguing that applied prior art does not expressly teach the instantly claimed invention having the "unexpected results" as seen in the instantly claimed invention. The examiner respectfully disagrees. While it is noted that the rejections of the last office action is withdrawn, it is still deemed that the applied prior art teaches applicant's invention. The rejections are being withdrawn to re-write the rejection with the proper corresponding claims. It is deemed that Felder teaches a photocurable composition comprising the photoinitiators of instant formulas (II) and (III), see formula in column 19 at line 21 corresponding to (II) and column 8, lines 1-10 corresponding to claim (III). The difference between the instant invention and Felder et al is the unsaturated compound containing at least one aminoacrylate. However, Felder et al teaches polymerization of ethylenically unsaturated compounds.

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In addition, Felder et al teaches adding amine compounds in combination with the compounds of the type (II) and (III)—see column 12, line 65 to column 13, line 2. It is noted that these amine compounds are not reactive, i.e. carry photopolymerizable groups (unsaturated groups), such as aminoacrylates. However, it is known from the teachings of Gaske that the addition of reactive acrylate compounds having amine groups, such as aminoacrylates when reacted in a system comprising aryl ketone sensitizers/initiators not only extend the polymerization of ethylenic materials, but speed up the cure and scavenges oxygen preventing air inhibition of the coating composition when cured by ultraviolet radiation—see column 1, lines 35-42 and example IV. Gaske additionally teaches cured rapidly with minimum UV light and produces minimum fumes and vapors—see col. 1, lines 8-11. Therefore the examiner deems that it would have been within the skill level of an ordinary artisan to add an amino acrylate, as suggest by Gaske, to the composition as taught by Felder et al (4,308,400) the motivation would have been a reasonable expectation of obtaining a cured film have had a rapid cure (fast cure speed) not inhibited by oxygen, as well as, producing minimum hazardous fumes and vapors. In addition, the courts have upheld it is obvious to add a known ingredient for its known properties, in this case speed of cure and inhibition of oxygen. In re Linder 173 USPQ 356.

4. Regarding applicant's unexpected results arguments: The current examiner additionally thinks applicant's results are not unexpected. Applicant refers to tables I and II, showing that the compositions comprising photoinitiators of formulas II, III, and V and aminoacrylate cure faster than the formulations comprising Darocure 1173 and Irgacure 184. At first glance, it does appear that the invention formulations cure faster when aminoacrylate is added to the composition. However, the examiner deems that one of ordinary skill in the art would have expected the same because the compounds of formula II, III, and V when exposed to radiation will/would break down into more active radical than the 1173 and 184, thus a fast cure, i.e., more radicals would equal faster cure. Additionally, it is not exactly clear what applicant's cure rate in the examples means in relation to the belt speed, which is variable according to page 38. Is the curing rate some variation of percent reacted acrylate unsaturation? Thus, tables 1 and 2 are not clear with respect to if all compositions were cured under the same conditions, i.e., same belt speed. Additionally, as a side note the unexpected results

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applicant is claiming in tables 1 and 2 are not commensurate in scope with claims 5 and 15. The formulations of the examples are done under specific conditions (i.e., thickness, lamp output (120 W/cm, and cure rate/speed) and with a specified amounts of photoinitiator and aminoacrylate, while the claims are limited to any composition comprising an aminoacrylate and a specific photoinitiator. Additionally, it is known that acetophenone type photoinitiator usually are used in combination with an activating compound, such as an amine as can be seen in the teachings of Martan¹ (US 4,048,034)—column 1, lines 25-30. Additionally, when taking the combined teachings of the references as cited in the rejection Gaske teaches that aminoacrylates help to overcome oxygen inhibition during the curing of the photopolymerizable composition. This would be another reason one of ordinary skill in the art would have not found the results in tables 1 and 2 unexpected, since when oxygen inhibition is prevented there are less competing reactions for the radicals, i.e., no oxygen present to scavenge the radicals produced by the photoinitiation process.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

¹ Please note Martan (US 4,048,034) is being mention in the above arguments as support for the examiner's statement and is not be applied as prior art in any of the rejections cited against applicant's claims.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5 and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Felder et al (US 4,308,400) in view of Gaske (US 3,844,916).

Regarding claim 5, Felder et al teach a composition comprising the photosensitizer of claimed formula III (C8/L8-9, see 4,4'-bis-(α -hydroxy-isobutryl)-diphenyl ethane) and formula (II) (see col. 19, line 21), an ethylenically unsaturated compound (C11/L33, ethylene diacrylate C11/L39), fillers (C12/L58-61) and further photoinitiators (C12/L62-68). While the reference teaches the composition comprising an ethylenically unsaturated compound, even an acrylate, (C11/L33, ethylene diacrylate C11/L39), it does not specifically teach an aminoacrylate as the ethylenically unsaturated compound.

Gaske discloses a radiation curable coating composition (C1/L4-5) containing a photoinitiator (C1/L32-33, see photosensitizer) and an ethylenically unsaturated compound being an aminoacrylate (C1/L17-42). Furthermore the reference discloses the composition to cure rapidly with minimum ultraviolet light and producing minimum fumes and vapors (C1/L8-11). The reference additionally discloses that the radiation polymerization is extended and speeded, as well as, scavenging oxygen preventing air inhibition of the coating composition by the presence of the tertiary amine of the aminoacrylate compound (C1/L34-42). Gaske and Felder et al teach analogous inventions related to radiation curable coatings comprising a photoinitiator and an ethylenically unsaturated compound. Applicant is reminded the courts have upheld that it is obvious to add a known ingredient to a composition for its known property--see In re Linder 173 USPQ 356. It would have been obvious to one of ordinary skill in the art at the time of the invention to use an aminoacrylate as the

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ethylenically unsaturated compound of the composition of Felder et al to increase the extent and speed of the polymerization of the composition, as well as, preventing air inhibition when exposed to UV light in the absence of evidence to the contrary and/or unexpected results.

Regarding claims 9 and 11, Felder et al teach applying the composition to a surface and curing the composition with UV light (see Example 4).

Regarding claim 10, Felder et al teach the composition as a pigmented or unpigmented surface coating (C13/L19-27; varnish coating of metal sheeting, colorless varnish coating of paper).

Regarding claims 12 and 14, modified Felder et al teach all the claim limitations as set forth above. Additionally, Felder et al teach applying the composition to a surface and curing the composition with UV light (see Example 4).

Regarding claim 13, modified Felder et al teach all the claim limitations as set forth above. Additionally, Felder et al teach the composition as a pigmented or unpigmented surface coating (C13/L19-27; varnish coating of metal sheeting, colorless varnish coating of paper).

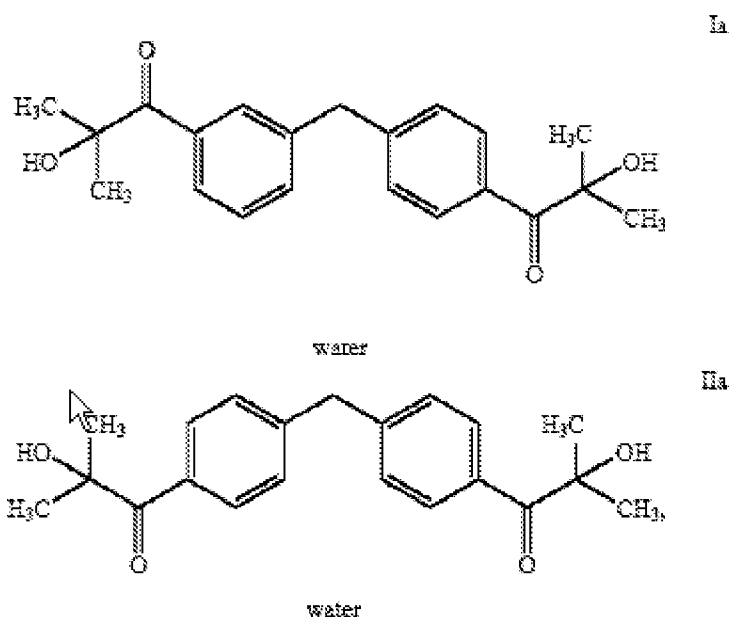
Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 5 and 9-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 8-11 of U.S. Patent No. 7,084,183. Although the conflicting claims are not identical, they are not patentably distinct from each other because they comprise overlapping subject matter. The primary difference is US'183 sets forth that the initiators comprises a isomeric mixture of



formulas: , which is the same photoinitiator (formula (II)) as found instant claims 1. Instant claim 1 does not exclude adding additional photoinitiator compounds, including stereoisomers of

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photoinitiators. Therefore it is deemed by the examiner the instant claims, as written, cannot be infringed without literally infringing upon the claims of 7,084,183. Any skilled artisan or persons in possession of or using the teachings of 7,084,183 will be able to make/use/prepare the composition as instantly claimed, thus, as stated above, the instant claims, as written, cannot be infringed without literally infringing upon the claims of 7,084,183 as cited in the obviousness-type double patenting rejection(s).

Claim Objections

5. Claims 9-14 are objected to because of the following informalities: It appears, in view of applicant's amendment, claims 9 and 10 are now duplicates of claims 12 and 13. Claim 11 is being added to this objection because it appears to be a duplicate of claim 14 except that the dependent claim number has been deleted in the body of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear which claim that claim 11 is to depend from 5 or 15. If it is to be claim 15, please be aware that a claim cannot depend of a claim that comes after it. All claims must be in consecutive order. Appropriate action is requested.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sanza L. McClendon whose telephone number is (571) 272-1074. The examiner can normally be reached on Monday through Friday 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sanza L McClendon/
Primary Examiner, Art
Unit 1796

SMc